NTSB National Transportation Safety Board

A New Approach

To

Runway Safety

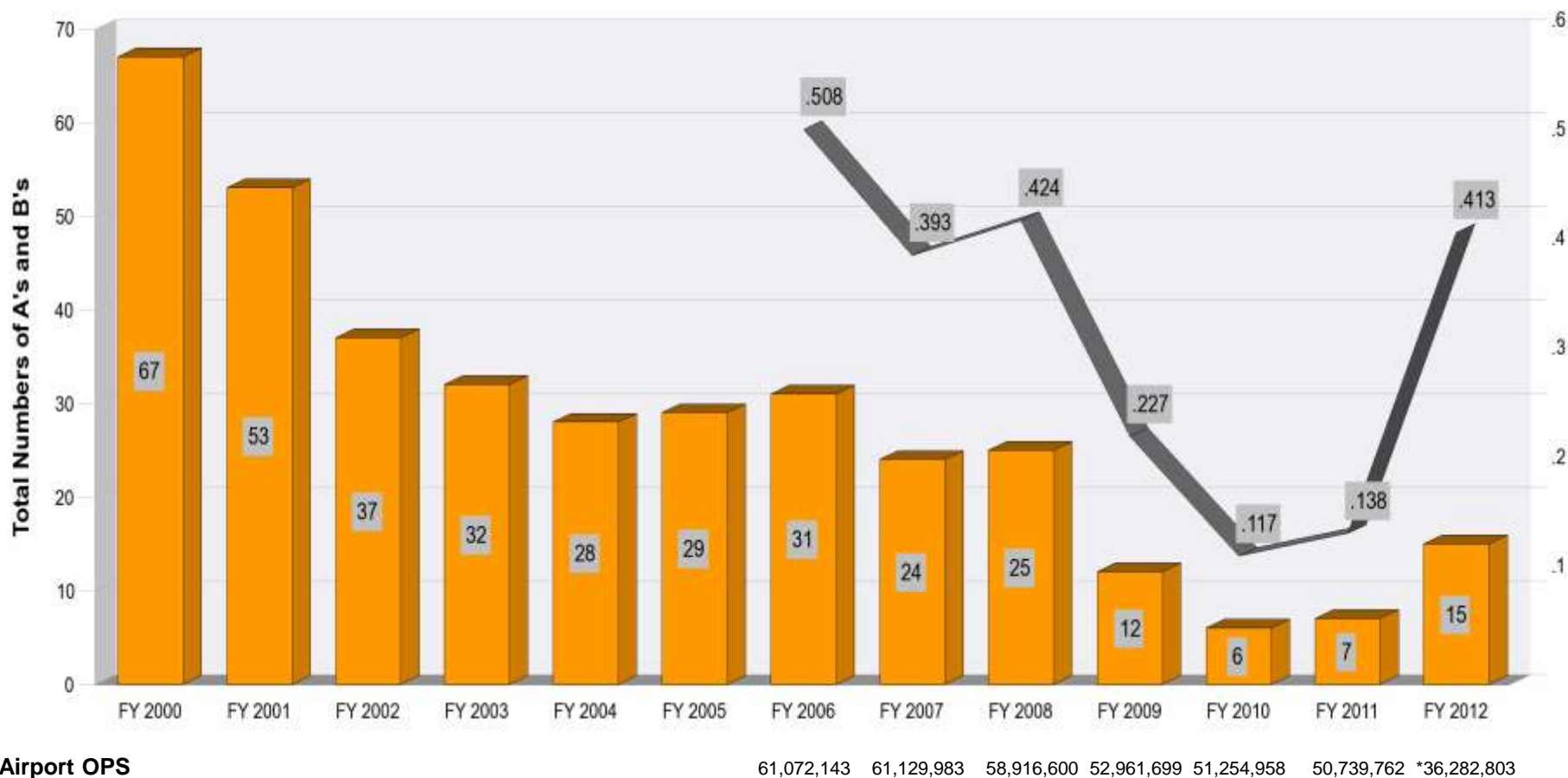Presentation to: AOPA Aviation Summit

Name: Christopher A. Hart
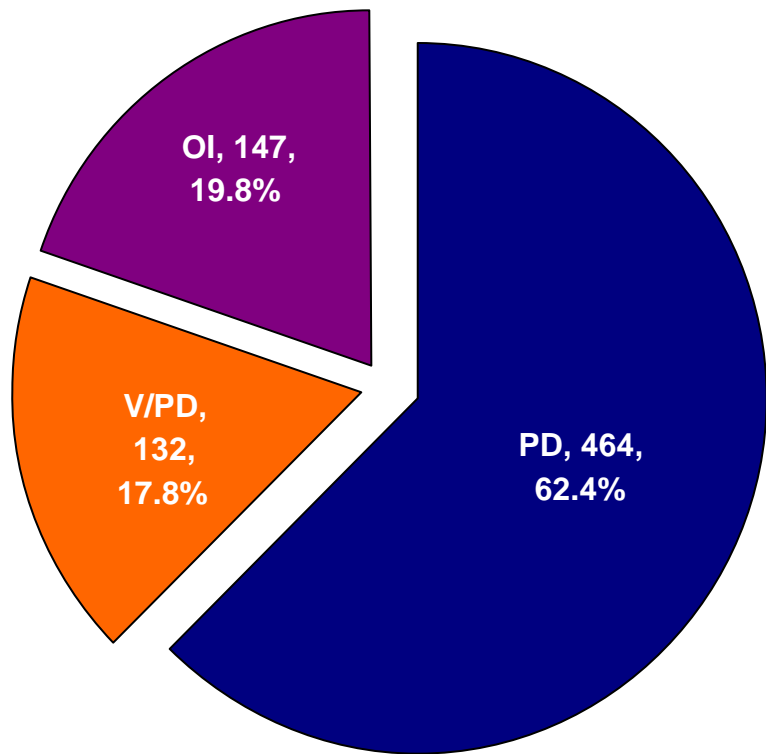
Date: October 12, 2012

Runway Incursions

– **Previously defined by FAA as *hazard created by* airplane or vehicle on the runway when it should not have been**

– **Now defined as "any occurrence at an aerodrome involving incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing or takeoff aircraft" *whether or not a hazard was created***

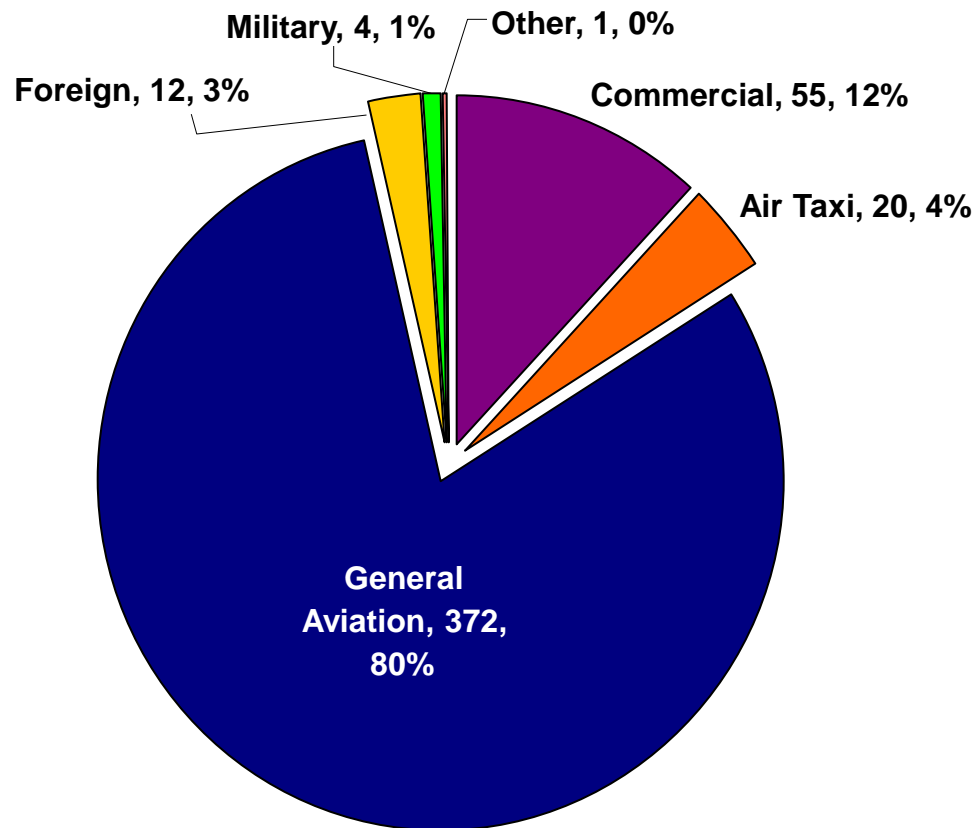# Category A and B Runway Incursions per Million Airport Operations

Airport OPS   61,072,143 61,129,983 58,916,600 52,961,699 51,254,958   50,739,762 *36,282,803

* As of June 26, 2012

Incursion Numbers and Rates

OI, 147, 19.8%

V/PD, 132, 17.8%

PD, 464, 62.4%

743 Runway Incursions

Foreign, 12, 3%

Military, 4, 1%

Other, 1, 0%

Commercial, 55, 12%

Air Taxi, 20, 4%

General Aviation, 372, 80%

464 Pilot Deviations

Source: FAA, 1 Oct 2011 – 30 June 2012

GA Incursions

- **Nearly half involve entry onto the runway or across the hold short line**
  - **In nearly half of those, the pilot received a clearance, acknowledged the clearance, and read it back correctly**
  - **In the remainder, the pilot either received no clearance, or received a clearance to, but not onto, the runway**

The Paradigm Shift

- **Previous Response: Punishment**
  - **Mostly pilots**
  - **Sometimes controllers**

- **The Good News: Runway Safety Council**
  - **Objective: Identify and fix problems, rather than punish**
  - **Collaborative activity, including FAA, airlines, labor, AOPA, and others**
  - **Quarterly meetings to determine root causes, re most recent RI's, make recommendations**
  - **Follow up on recommendations**

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Sample of Results

- **Inclusion of chapter re Runway Incursion Avoidance in Pilot's Handbook of Aeronautical Knowledge**

- **Progress toward inclusion of runway incursion material in**
  - **Practical Test Standards**
  - **Instructor training**
  - **Part 142 curriculum**

- **Changes in ATC procedures**
- **Changes re airport signs and markings**

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Problems and Solutions: Airport Chart

- **Have it**
  - **Incursion due to pilots unfamiliar, no chart**
  - **Get chart online**
  - **Encourage FBOs to provide charts**

- **Understand it (especially "Hot Spots")**
  - **Incursion due to missed turn while programming FMS**
  - **Incursion due to failure to clarify confusing clearance**
  - **Incursion due to unawareness of "gotcha"**
  - **Wrong runway due to inadequate awareness of geometry**

Expectation Bias
(Think You Hear What You Expect To Hear)

- **No Readback**
  - **Pilot's readback did not specify which runway**
  - **Controller did not ask**
  - **Pilot departed on wrong runway**

- **Pilot Hears Clearance Incorrectly**
  - **Pilot told to continue approach**
  - **Controller in long conversation re other matter**
  - **Pilot landed without clearance**

- **Controller Hears Readback Incorrectly**
  - **Readback re non-existent intersection should have alerted controller to problem**

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Abnormal Operations

– **Construction**
  - **Normal or construction lights may be inoperative**
  - **Routes may not be well marked**
  - **Procedures interim, may not be robust**

– **Other**
  - **Stuck mike -- Causal link in takeoff without clearance**
  - **Long conversation -- Resulted in landing without clearance**
  - **Controller forgot -- Resulted in simultaneous conflicting landing clearances**
  - **Mishap at airport – Resulted in incorrect clearance (procedures not robust or well-practiced)**

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<u>Moral of the Story</u>

– **The System Involves Many Good People Trying to Do the Right Thing, But Always Be Alert for Errors –** *Yours and Others*

– **Trust But Verify**

– **When in Doubt –** *ASK!!*

Thank You!!!

Questions?